

ABSTRACT OF THE DISCLOSURE

A magnetic random access memory in which "0" data and "1" data are associated with resistance values of a non-magnetic layer of a magnetoresistive element, the resistance values being variable depending on orientation of magnetization of a magnetic free layer and a magnetic pinned layer which sandwich the non-magnetic layer, and current is let to flow to first and second write current paths, which are provided close to the magnetoresistive element and are separated from each other, thereby producing a composite write magnetic field, changing a direction of magnetization of the free layer, wherein the first write current path includes a channel region of an insulated-gate transistor that is disposed close to the free layer, and the transistor is controlled such that a channel current with a desired magnitude flows in the transistor.